

Listing of Claims

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Currently Amended) A system, comprising:

an interference pattern generator to generate, at a first location, an interference pattern including an interference fringe;

a spatial filter to limit, ~~at least in part,~~ the area at the first location actually illuminated by the interference pattern; and

a positioner to displace the actually illuminated area across the first location in a direction crossing the interference fringe and to maintain a substantially constant position of the interference pattern relative to the first location despite the displacement.

2. (Original) The system of claim 1, wherein:

the interference pattern generator is to generate an interference pattern to illuminate a substrate at the first location;

the spatial filter is to limit the area of the substrate actually illuminated by the interference pattern; and

the positioner is to displace the actually illuminated area across the substrate in a direction crossing the interference fringe and to maintain the substantially constant position of the interference pattern relative to the substrate despite the displacement.

3. (Original) The system of claim 1, wherein the positioner is to maintain the position of the interference pattern relative to the first location constant to within a pitch of the interference pattern in the illuminated area.

4. (Original) The system of claim 3, wherein the positioner is to maintain the position of the interference pattern relative to the first location constant to within 1% of the pitch of the interference pattern in the illuminated area.

5. (Original) The system of claim 1, wherein the positioner comprises:

a first positioner to displace the interference pattern in a direction D relative to the spatial filter; and

a second positioner to displace the substrate in the direction D relative to the spatial filter.

6. (Original) The system of claim 1, wherein the positioner comprises a spatial filter positioner to displace the

spatial filter relative to the interference pattern and the substrate.

7. (Original) The system of claim 1, further comprising a pitch controller to control a pitch of the interference pattern.

8. (Original) The system of claim 1, wherein the spatial filter comprises an aperture having a first dimension and a second dimension, the first dimension being greater than the second dimension and oriented to allow two or more wavefronts forming the interference pattern to illuminate the substrate at a substantially uniform angle.

9. (Original) The system of claim 1, wherein the positioner comprises a closed loop control system to maintain the substantially constant position of the interference pattern relative to the first location.

10. (Original) The system of claim 1, wherein the positioner is to displace the actually illuminated area across the first location in a direction substantially perpendicular to the interference fringe.

Claims 11-25. (Canceled)

26. (Withdrawn) A system, comprising:
an interference pattern generator to generate an interference pattern to illuminate a first location;
a spatial filter to limit, at least in part, the area at the first location actually illuminated by the interference pattern; and

a pitch controller to control a pitch of the interference pattern to achieve a desired pitch in the illuminated area.

27. (Withdrawn) The system of claim 26, further comprising a positioner to displace the illuminated area across the first location.

28. (Withdrawn) The system of claim 27, wherein:
the interference pattern is to include an interference fringe; and

the positioner comprises a positioner to displace the illuminated area across the first location in a direction crossing the interference fringe.

29. (Withdrawn) The system of claim 27, wherein the pitch controller comprises a control loop to dynamically control the pitch as the illuminated area is displaced across the substrate.

30. (Withdrawn) The system of claim 26, wherein the pitch controller is to control the pitch of the interference pattern to achieve a substantially constant pitch in the illuminated area.

31. (New) The system of claim 1, wherein the interference pattern generator comprises a source of electromagnetic radiation suitable for exposing a photoresist.

32. (New) The system of claim 2, wherein the substrate comprises a photoresist that is sensitive to an electromagnetic radiation that forms the interference pattern generated by the interference pattern generator.

33. (New) The system of claim 7, wherein the pitch controller comprises a control loop to dynamically control the pitch as the illuminated area is displaced across the substrate.

34. (New) The system of claim 7, wherein the pitch controller is to control the pitch of the interference pattern to achieve a substantially constant pitch in the illuminated area.